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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,563	10/19/2005	Yasuhiro Mori	26281-11A	2044
34238 7590 12/31/2008 ARTHUR G. SCHAIER CARMODY & TORRANCE LLP 50 LEAVENWORTH STREET P.O. BOX 1110 WATERBURY, CT 06721			EXAMINER MOORE, MARGARET G	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 12/31/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/553,563

**Applicant(s)**

MORI, YASUHIRO

**Examiner**

Margaret G. Moore

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 to 4, 6, 7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 to 3, 6, 7 is/are rejected.  
7) ☒ Claim(s) 4 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/CDC)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

1. Applicants' amendment and remarks overcome the prior art and ODP rejections noted in the previous office action. Upon an updated review of the prior art, the following new ground of rejection is being made. Since applicants' amendment did not necessitate this new ground of rejection (since the amendment merely incorporated the subject matter of previous claim 5 into claim 1) this action cannot be made final.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strobel et al. '967 and Strobel '317, each taken in view of the other.

Strobel et al. '967 teaches a flame treating process in which fuel and an oxygen containing compound are used to flame treat a polymeric surface. See for instance column 4, lines 35 and on, which teach various oxygen containing compounds including alcohols. The bottom of column 4 through column 5 teaches a molar amount of an oxygen containing compound to total amount of fuel that overlaps with, and renders obvious to the skilled artisan, the claimed molar amount of alcohol in the silicon containing compound. See for instance Table 4 which shows various amounts of alcohol that fall within the claimed range. This differs from the claims in that it does not specifically teach an organosilicon containing fuel (see column 4, lines 22 and on).

Strobel et al. '317 teaches a flame treating process in which a silicon containing compound is used as a fuel. The silicon containing compound functions as a fuel substitute that has benefits such as the ability to modify the substrate surface. See column 2, lines 36 and on. As was noted in the previous office action, one having ordinary skill in the art would have found the use of a silicon containing compound such as hexamethyldisilazane meeting the claimed flash point and boiling point limitations to have been obvious. See page 3, paragraph 5, of the previous office action as it

presently applies. The Examiner agrees with applicants' traversal that this reference fails to adequately teach or suggest the addition of an alcohol to the fuel gas.

One having ordinary skill in art would have been motivated by the teachings of '317 to use a silicon containing fuel compound, such as hexamethyldisilazane, as the fuel source in '967 since this compound is known to function as a fuel substitute and has the added benefit of modifying the surface of the polymeric substrate in a desirable manner. In this manner the teachings of Strobel et al. '967 in view of Strobel et al. '317 renders the instant claims obvious.

On the other hand, one having ordinary skill in the art would have been motivated by the teachings in '967 to add an oxygen containing compound to the fuel mixture in '317 in an effort to obtain the benefits and properties associated therewith, including improved wettability (column 2, lines 32 and on in '967). In this manner one having ordinary skill in the art would have found the claims obvious over the teachings of Strobel et al. '317 in view of Strobel et al. '967.

4. Claims 1 - 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strobel et al. '967 in view of DE 199 05 697, as interpreted by the English translation provided by applicants in the IDS of 10/19/05.

Strobel et al. '967 teach the flame treatment of a solid material by preparing a fuel gas having an alcohol. See for instance column 4, lines 22 and on, including the specific teachings of alcohols on line 42 and the examples shown in Table 4. This differs from that claimed in that patentees do not teach the addition of a silicon containing compound having the requirements as claimed.

DE '697 teach the addition of organosilicon compounds to a fuel used in the flame treatment of solid materials. As can be seen from the abstract, the addition of up to 1.9 wt% of organosilicon compounds results in adhesion layers having improved physical properties. Page 3, line 25 and on, specifically teaches a vinyl triethoxysilane which meets claim 3.

One having ordinary skill in the art would have been motivated by the teachings of DE '697 to include an organosilicon compound such as vinyl triethoxysilane to the

fuel in the flame treating process of Strobel et al. in an effort to take advantage of the known benefits and properties thereof, as disclosed in DE '697. In this manner one having ordinary skill in the art would have found the fuel gas preparation step required by the claims to have been obvious. With regard to the amount of alcohol component, please note that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 to 3, 6 and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 11/795,401 in view of Strobel et al. '967. As noted in the previous office action, the teaching of silazane in the claims of '401 would have rendered obvious the claimed silicon containing compound to one having ordinary skill in the art. Strobel et al. teach the addition of an oxygen containing compound including an alcohol, to a fuel source in an effort to improve the wettability of the polymeric film surface and/or alter

the reactivity of the surface of the substrate by further oxidation. Thus one having ordinary skill in the art would have been motivated by the known benefits and properties associated with the addition of an alcohol to a fuel source to add such an alcohol to the fuel source in the claims of '401. In this manner the skilled artisan would have found the instant claims obvious.

This is a provisional obviousness-type double patenting rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday and Wednesday to Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/  
Primary Examiner, Art Unit 1796

mgm  
12/30/08